

Potential Effects of Global Warming

6.1.3 Discuss qualitatively the potential effects of increased mean global temperature.

① OCEANS + SEAS

Oceans will Rise due to ice melting + water expanding as it gets hotter.

↳ Cover cities

↑ Ocean acidification when there is more CO_2

② Polar Ice Caps

glaciers melting → ↑ ocean (floating ice won't ↑ oceans)

↓ Regular current patterns because Saltwater will be more dilute.

↳ Change Climate

↓ ice = more trade Routes

↓ ice releases trapped methane which ↑ temp.

③ Effects on Glaciers

↓ glaciers leads to flooding & landslides.

Seasonal glacial melting provides freshwater for lots of people. (for example Himalayan glaciers → water for Yellow & Yangtze Rivers)

④ Effects on Weather Patterns

↑ Heat means more ↑ Energy
Weather will be more violent (↑ storms + droughts)

↑ precipitation ⇒ ↑ erosion
↓ H_2O

↑ Hurricanes ↑ Monsoon Rains

⑤ Effects on Food Production

↑ crop growing season in some places.

↑ Temp ↑ Photosynthesis
BUT ↑ Respiration so the
Same NPP.

↑ crop pests will spread.

↑ temp ↓ plankton (bottom
of aquatic foodchain)

↑ heat kills livestock + crops

⑥ Effects on Biodiversity & Ecosystems

↑ melting permafrost in
Tundra.

Animals migrate BUT plants
can't.

Organisms from Arctic +
Tundra have no place to
go & become extinct.

↓ glaciers ↓ salinity + changes in
ocean currents ⇒ change aquatic
habitats.

↑ forest fires ⇒ ↓ habitat & ↑ CO₂

↓ corals (bases of many foodwebs)

⑦ Effects on Water Supplies

↑ temp causes some
surface H₂O to dry out.

↳ move human populations.

↓ glaciers ⇒ ↓ freshwater
supplies.

⑧ Effects on Human Health

↑ Heatwaves ↑ death

↑ insects (vectors that carry disease) spread to new places.

↑ algae (red tides are toxic)
changing climate ⇒ diseases in diff. places.

↑ Emerging Diseases

⑨ Effects on Human Migration

global migration looking for resources (crops + water)

Areas now under water need a place to live.

⑩ Effects on National Economies

Resources shift → Some Countries will win & others will lose.

Change of trade routes as ice melts.

Desertification ⇒ ↓ Agriculture